

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BERNHARD GIER

Appeal No. 2002-1187
Application No. 09/403,115

ON BRIEF

Before THOMAS, FLEMING, and DIXON, **Administrative Patent Judges**.
DIXON, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 10-25, which are all of the claims pending in this application.

We REVERSE.

BACKGROUND

Appellant's invention relates to a microprocessor system for safety-critical control systems. An understanding of the invention can be derived from a reading of exemplary claim 10, which is reproduced below.

10. Microprocessor system for safety-critical control operations, comprising:

a plurality of central processing units which are connected, by way of separate bus systems, to read-only memories and random-access memories that also have memory locations for test data, wherein said plurality of central processing units are further connected to input and output units and to comparators which check the output data or output signals of the central processing units for correlation, wherein the central processing units execute the same program and communicate with each other by way of the bus systems, and wherein the bus systems are interconnected by bypasses which enable the central processing units to jointly read and process the existing data, including the test data and commands,

redundant periphery units into at least two complete control signal circuits and are interconnected in such a manner that, upon failure of a central processing unit or associated components, the faulty central unit can be identified by a majority decision in an identification stage, and an emergency operation function is maintained, wherein in the emergency operation function, redundant data processing and comparison of the data processing results for correlation is maintained and non-correlation or the occurrence of differences between the data processing results or intermediate results is signalled, and wherein a delivery of output signals or control signals by the inclusion of or as a function of the faulty system or the faulty central unit is prevented.

Appeal No. 2002-1187
Application No. 09/403,115

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Smith et al. (Smith '347)	4,967,347	Oct. 30, 1990
Mutone	5,086,499	Feb. 04, 1992
Giers (Giers '082)	DE 43 41 082	Jun. 08, 1995
Giers (Giers '434)	DE 195 29 434	Feb. 13, 1997

Smith, S.E., "Triple Redundant Fault Tolerance: A Hardware Implemented Approach," ISA Transactions, Vol. 30, Number 4, pages 87-95, 1991. (Smith article)

Claims 10-25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Giers ('434 or '082) in view of (Smith '347 or Mutone or Smith article).

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellant regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 17, mailed Dec. 28, 2001) for the examiner's reasoning in support of the rejections, and to appellant's brief (Paper No. 16, filed Nov. 5, 2001) for appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we make the determinations which follow.

35 U.S.C. § 103

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. **See In re Rijckaert**, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A *prima facie* case of obviousness is established by presenting evidence that the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed combination or other modification. **See In re Lintner**, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). Furthermore, the conclusion that the claimed subject matter is *prima facie* obvious must be supported by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention. **See In re Fine**, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Rejections based on § 103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The examiner may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. **See In re Warner**, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), **cert. denied**,

389 U.S. 1057 (1968). Our reviewing court has repeatedly cautioned against employing hindsight by using the appellant's disclosure as a blueprint to reconstruct the claimed invention from the isolated teachings of the prior art. **See, e.g., Grain Processing Corp. v. American Maize-Prods. Co.**, 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988).

When determining obviousness, "the [E]xaminer can satisfy the burden of showing obviousness of the combination `only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.'" **In re Lee**, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002), citing **In re Fritch**, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). "Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence.'" **In re Dembiczak**, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). "Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact." **Dembiczak**, 175 F.3d at 999-1000, 50 USPQ2d at 1617, citing **McElmurry v. Arkansas Power & Light Co.**, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993).

Further, as pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." **In re Hiniker Co.**, 150 F.3d

1362,1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Therefore, we look to the language of independent claim 10 which recites “into at least two complete control signal circuits and are interconnected in such a manner that, upon failure of a central processing unit or associated components, the faulty central unit can be identified by a majority decision in an identification stage, and an emergency operation function is maintained” Appellant argues that the Giers references do not teach the use of an identification stage for identifying the faulty central processing unit. (See brief at page 7.) Appellant argues that Giers does not require the identification stage because these references teach only two microcomputers (whereas the present invention uses two complete and one incomplete computer system). We agree with appellant that there is no teaching or suggestion of the use of an identification stage as claimed in Giers ‘434 and Giers ‘082. Nor do we find a teaching or suggestion in Smith (Smith article or Smith ‘347) of the use of an identification stage as claimed in independent claim 10. We agree with appellant that the use of three complete computation devices in Smith are more directed to the removal of the faulty device and not to the identification and continued emergency operation of the remaining system. (See brief at page 7.)

Appellants argue that there is no motivation to modify the teachings of Giers to add a third data processing system that cooperates with the second incomplete data processing system and the first complete data processing system as in the present

invention. (See brief at pages 7-8.) Appellant further argues that because the Giers references disclose only two microcomputer and Smith disclosed three completely redundant systems, it would not have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching to achieve a hybrid system with two complete systems and one incomplete system. We agree with appellant, and find no convincing line of reasoning by the examiner as to why it would have been obvious to one of ordinary skill in the art at the time of the invention to add an additional complete system to the hybrid system of Giers. While the language of independent claim 10 does not explicitly require the two complete and one incomplete system, we find that the recitation of plural bypasses and a majority decision would require that there be more than two systems for the emergency operation function maintained having redundant data processing and comparison and correlation as claimed. Appellant argues that there is no motivation to combine the systems of Giers and Smith and that the examiner's combination is based upon impermissible hindsight. (See brief at page 8.) We agree with appellant.

The examiner maintains that the above arguments are not supported by the language of the claims. (See answer at page 8.) We disagree with the examiner as discussed above.

With respect to the combination of the Giers references with Mutone, appellant relies on the arguments above. The examiner maintains that Mutone teaches a redundant process with fault identification. (See answer at page 7-9.) While we agree with the examiner that Mutone identifies faults and has continued operation while the fault is corrected, Mutone does not teach or fairly suggest the emergency operation function maintained having redundant data processing and comparison and correlation as claimed. In the claimed invention, there is required continued redundant operation which would not be possible with only two redundant processors of Mutone and one being faulty. Therefore, this argument is not persuasive by the examiner. Similarly, we find no persuasive showing by the examiner that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Giers and Mutone. Therefore, we again find the use of impermissible hindsight in the examiner's rejection. Therefore, we will not sustain the rejection of independent claim 10 and its dependent claims 11-17.

We find similar limitations in independent claim 18 and a lack of a ***prima facie*** case of obviousness by the examiner. Therefore, we will not sustain the rejection of independent claim 18 and its dependent claims 19-25.

Appeal No. 2002-1187
Application No. 09/403,115

CONCLUSION

To summarize, the decision of the examiner to reject claims 10-25 under
35 U.S.C. § 103 is reversed.

REVERSED

JAMES D. THOMAS
Administrative Patent Judge

MICHAEL R. FLEMING
Administrative Patent Judge

JOSEPH L. DIXON
Administrative Patent Judge

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Appeal No. 2002-1187
Application No. 09/403,115

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